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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/814,603	03/31/2004	Shinsaku Higashi	02008/105002	5472

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EXAMINER	
OCHOA, JUAN CARLOS	
ART UNIT	PAPER NUMBER
2123	

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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/814,603	HIGASHI ET AL.	
	Examiner	Art Unit	
	Juan C. Ochoa	2123	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *30 March 2007*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-17* is/are pending in the application.

4a) Of the above claim(s) *13-17* is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-12* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☒ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *8/18/04* is/are: a)☐ accepted or b)☒ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date *See Continuation Sheet*.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

Continuation of Attachment(s) 3). Information Disclosure Statement(s) (PTO/SB/08), Paper No(s)/Mail Date :5/3/07, 2/12/07, 5/12/06, 2/24/05, 11/1/04.

DETAILED ACTION

1. Examiner Mary C. Jacob is no longer prosecuting this application. Examiner Juan Carlos Ochoa is taking over the prosecution of this application.

2. Election filed 3/30/07 has been received and considered, claims 1–17 are pending in this application, claims 1–12 have been elected with traverse, claims 13–17 have been withdrawn as being directed to the non–elected invention.

Election/Restrictions

3. Applicant's election with traverse of Groups I and III in the reply filed on 3/30/07 is acknowledged. The traversal is on the ground(s) that because Groups I and III are both classified in class 703, subclass 23, there exists no serious burden on the Examiner to examine the claims of both groups. This is not found persuasive because, as stated by Examiner Mary C. Jacob, Inventions I and III are directed to distinct inventions. Groups I and III are distinct because (1) the inventions as claimed are either not capable of use together or can have a materially different design, mode of operation, function, or effect; (2) the inventions do not overlap in scope, i.e., are mutually exclusive; and (3) the inventions as claimed are not obvious variants. See MPEP § 806.05(j). In the instant case, the "test module emulation section" in claims 15-17 is capable of outputting a "variation of voltage" by calling a "voltage setting method of an output channel object", (described by section B.3.3 and Figures 22 and 23 on page 67 of the specification, and described as an additional configuration of the test emulation section on page 42, lines 18-30 of the specification), which is not required for

the "test module emulation section" of claims 1-12. Furthermore, the inventions as claimed do not encompass overlapping subject matter and there is nothing of record to show them to be obvious variants.

4. The requirement is still deemed proper and is therefore made FINAL.

Information Disclosure Statement

5. The information disclosure statements filed 5/3/07 and 5/12/06 list Pre–Grant publication 2001/016922. This information referred to has not been considered since such a Pre–Grant publication is non–existent.

6. The information disclosure statements filed 5/3/07, 2/12/07, 5/12/06, 2/24/05, 11/1/04 fail to comply with 37 CFR 1.98(a)(3) because it does not include a concise explanation of the relevance, as it is presently understood by the individual designated in 37 CFR 1.56(c) most knowledgeable about the content of the information, of each patent listed that is not in the English language. The information disclosure statements filed 5/3/07, 2/12/07, 5/12/06, 2/24/05, 11/1/04 contain a large number of references submitted for consideration that appear to be cumulative and are consistent with the progress in the art. In view of the number of references in this application, the Applicant is requested to identify any specific references, features, sections or figures in the references cited which are believed to have particular significance in the prosecution of this application or which are considered material to the patentability of the pending claims, for further consideration by the Examiner. After glancing through the excessive

number of references submitted, Examiner considers some of them as unrelated to the limitations set forth in the instant application.

Drawings

7. The drawings are objected to as failing to comply with 37 CFR 1.84(p)(5) because:

8. As to Figure 1, page 12, lines 3 and 6 of the specification refer to "1000" and not reference character "100" as labeled in Figure 1.

9. As to Figure 8, page 45, line 10 of the specification refers to "2200" and not reference characters "2220" as labeled in Figure 8.

10. As to Figure 8, page 45, line 10 of the specification refers to "2110". Figure 8 does not include the reference sign "2110".

11. As to Figure 8, page 46, line 19 of the specification refers to "294, 296 and 290" and not reference characters "2294, 2296 and 2290" as labeled in Figure 8.

12. As to Figure 8, page 47, line 4 of the specification refers to "2104/2240" and not reference characters "2240" as labeled in Figure 8.

13. As to Figure 8, several pages and lines of the specification refer to "2200" and not reference characters "200" as labeled in Figure 8.

14. As to Figure 8, page 57, line 31 of the specification refers to "2228". Figure 8 does not include the reference sign "2228".

15. As to Figure 13, it includes the following reference character(s) not mentioned in the description: 2804 and 2820.

16. As to Figure 13, page 61, line 15 of the specification refers to "installation 2815" and not reference character 2816 for offline simulation as labeled in Figure 13.

17. As to Figure 13, page 61, line 20 of the specification refers to "offline simulation 2809" and not reference character 2816 for offline simulation as labeled in Figure 13.

18. As to Figure 13, it includes the following reference character(s) not mentioned in the description: 5000.

19. As to Figure 16, it includes the following reference character(s) not mentioned in the description: 5100.

20. Corrected drawing sheets in compliance with 37 CFR 1.121(d), or amendment to the specification to add the reference character(s) in the description in compliance with 37 CFR 1.121(b) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either "Replacement Sheet" or "New Sheet" pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

21. Figure 3 should be designated by a legend such as --Prior Art-- because only that which is old is illustrated.

22. See MPEP § 608.02(g). Corrected drawings in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. The

replacement sheet(s) should be labeled "Replacement Sheet" in the page header (as per 37 CFR 1.84(c)) so as not to obstruct any portion of the drawing figures. If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

Claim Interpretation

23. Office personnel are to give claims their "broadest reasonable interpretation" in light of the supporting disclosure. In re Morris, 127 F.3d 1048, 1054-55, 44 USPQ2d 1023, 1027-28 (Fed. Cir. 1997). Limitations appearing in the specification but not recited in the claim are not read into the claim. In re Prater, 415 F.2d 1393, 1404-05, 162 USPQ 541,550-551(CCPA 1969). See *also In re Zletz, 893 F.2d 319,321-22, 13 USPQ2d 1320, 1322(Fed. Cir. 1989) ("During patent examination the pending claims must be interpreted as broadly as their terms reasonably allow").... The reason is simply that during patent prosecution when claims can be amended, ambiguities should be recognized, scope and breadth of language explored, and clarification imposed.... An essential purpose of patent examination is to fashion claims that are precise, clear, correct, and unambiguous. Only in this way can uncertainties of claim scope be removed, as much as possible, during the administrative process.

24. Claims recite "cycle time". The specification defines "cycle time" as " cycle time cycle time indicated to be a cycle 1 in the figure" (see page 37, line 3 and Fig. 7). The claims reciting "cycle time" were interpreted according to this definition.

25. Limitations drawn to allowing, enabling, making optional, or providing intended use of a function's performance does not further limit a claim. As such, any prior art not explicitly prohibiting the performance of the function inherently anticipates the limitation. See for example claim 1, which recites, in part: "a plurality of test module emulations sections for emulating ..." (emphasis added). In the instant examiner, the language following the 'for' is interpreted as intended use and therefore does not limit the claim. Additionally, apparatus claims are not limited by functional limitations.

26. In view of the section *supra*, the preamble of claim 1 is not given patentable weight because it is not necessary for the life, meaning, and vitality of the claim limitations. Although the claim language appears to have antecedent basis stemming from the preamble, the language is not given patentable weight because it is merely intended use. Therefore, the preamble is not given patentable weight.

Claim Objections

27. Claim 1 line 9 includes the term "generating test signal generating timings", meaning is unclear. Examiner interprets as "generating test signal, which generates timings," for examination purposes.

28. Claims 4 and 5 use the acronym or variable "DUT", the first use of an acronym or variable in a claim should be defined to avoid any possible indefiniteness issues.

29. Preamble of claim 10, recites "a test module emulator for emulating a test module among a plurality of test modules by a test emulator for emulating test apparatuses comprising the plurality of test modules for supplying test signal to devices

under test respectively based on a different cycle", meaning is unclear. The "test emulator" is being defined as having a feature that emulates itself "a test module emulator", which creates a circular meaning to the test emulator.

30. Appropriate correction is required.

Claim Rejections - 35 USC § 112

31. The following is a quotation of the second paragraph of 35 U.S.C. 112:

> The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

32. Claims 1-8 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. Specifically in claim 1, because of the two transition phrases within the preamble it is unclear as to whether the second transition phrase "comprising" is corresponding to the "test emulator", or to "devices under test".

33. Dependent claims inherit the defect of the claim from which they depend.

Claim Rejections - 35 USC § 101

34. 35 U.S.C. 101 reads as follows:

> Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

35. Claims 1–8, and 10–11 are rejected under 35 U.S.C. 101 because the claimed invention is directed to non-statutory subject matter.

36. Specifically, in view of the specification provided by the Applicant it is determined that the recited claims are directed to software, per se. (See embodiment of instant application in page 28, line 29 to page 29, line 4 and Fig. 5 and "wherein each of said plurality of test module emulation sections is realized by operating test module emulation program corresponding to said test module emulation section by a computer" in claim 8). In this instance, absent an explicit and deliberate definition in the specification that the product includes an appropriate medium or hardware elements, the claims are directed to software, *per se*. Note exemplary claim 1 which recites only software elements. Additionally, software, per se, is not considered concrete (MPEP 2106). Also, see section "Claim Interpretation" above which provides the basis for not providing patentable weight to the preambles.

Double Patenting

The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. A nonstatutory obviousness-type double patenting rejection is appropriate where the conflicting claims are not identical, but at least one examined application claim is not patentably distinct from the reference claim(s) because the examined application claim is either anticipated by, or would have been obvious over, the reference claim(s). See, e.g., In re Berg, 140 F.3d 1428, 46 USPQ2d 1226 (Fed. Cir. 1998); In re Goodman, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); In re Longi, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); In re Van Ornum, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); In re Vogel, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and In re Thorington, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) or 1.321(d) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent either is shown to be commonly owned with this application, or claims an invention made as a result of activities undertaken within the scope of a joint research agreement.

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

37. Claims 1–12 are directed to the same invention as that of claims 1–11 of commonly assigned Application No. 10/404002. The issue of priority under 35 U.S.C. 102(g) and possibly 35 U.S.C. 102(f) of this single invention must be resolved.

38. Since the U.S. Patent and Trademark Office normally will not institute an interference between applications or a patent and an application of common ownership (see MPEP Chapter 2300), the assignee is required to state which entity is the prior inventor of the conflicting subject matter. A terminal disclaimer has no effect in this situation since the basis for refusing more than one patent is priority of invention under 35 U.S.C. 102(f) or (g) and not an extension of monopoly. The Instant Application names Shinsaku Higashi, Seiji Ichiyoshi, Ankan Pramanick, Mark Elston, Leon Chen, Robert Sauer, Ramachandran Krishnaswamy, Harsanjeet Singh, Toshiaki Adachi, Yoshihumi Tahara as inventors. The co-pending application names Shinsaku Higashi as the sole inventor.

39. Failure to comply with this requirement will result in a holding of abandonment of this application.

40. Claims 1–12 are provisionally rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claims 1–11 of copending Application No. 10/404002. Although the conflicting claims are not identical, they are not patentably distinct from each other because they are drawn to obvious variations.

41. It would have been obvious to one of ordinary skill in the art at the time of Applicant's invention to alter the preambles of claims 1–11 in the Co-pending

Application 10/404002 and/or the preambles of claims 1–12 in the Instant Application. Examiner notes that the limitations of the bodies of the claims in both applications are the same.

42. This is a provisional obviousness-type double patenting rejection because the conflicting claims have not in fact been patented.

Conclusion

43. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

44. U.S. Patent 6,026,230, Lin et al., teaches a test emulator for emulating a test apparatus comprising a plurality of test modules for supplying a test signal to devices under test respectively (see col. 1, lines 11–16; col. 5, lines 40–45, 49–50; and col. 6, lines 25–34, 47–56).

45. U.S. Patent 6,785,873, Ping-Sheng Tseng, teaches dynamically changing the evaluation period to accelerate design debug sessions. (see col. 1, lines 17-20).

46. Examiner would like to point out that any reference to specific figures, columns and lines should not be considered limiting in any way, the entire reference is considered to provide disclosure relating to the claimed invention.

47. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Juan C. Ochoa whose telephone number is (571) 272-2625. The examiner can normally be reached on 7:30AM - 4:00 PM.

48. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Paul Rodriguez can be reached on (571) 272-3753. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

49. Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

***6/20/07 JO

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